

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2004/051063

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G11B7/0055 G11B7/006 G11B7/005

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	EP 1 298 650 A (SAMSUNG ELECTRONICS CO LTD) 2 April 2003 (2003-04-02) paragraphs '0001!', '0002!', '0026!' - '0041!'; figures 4-7 -----	1-3, 5, 6, 8, 9 4, 7
X	US 5 150 351 A (NISHIUCHI KENICHI ET AL) 22 September 1992 (1992-09-22) column 6, lines 4-51; figures 4, 5 -----	1
P, X	US 2003/198166 A1 (DEKKER MARTIJN JEROEN) 23 October 2003 (2003-10-23) paragraphs '0001!', '0029!' - '0031!'; figures 1a, 1b -----	1
A	EP 0 218 243 A (MATSUSHITA ELECTRIC IND CO LTD) 15 April 1987 (1987-04-15) column 4, line 39 - column 5, line 50; figure 2g ----- -/-	1

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

26 October 2004

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Stemmer, M

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 538 966 B1 (HANKS D MITCHEL) 25 March 2003 (2003-03-25) column 2, lines 7-29	10, 11, 14, 18
A	column 7, lines 29-51; figure 5B	12, 13, 15-17
A	----- US 2001/012251 A1 (MATSUYAMA HISASHI ET AL) 9 August 2001 (2001-08-09) paragraphs '0072! - '0075!, '0086!; figure 8B	10
A	----- US 5 761 172 A (MINEMURA HIROYUKI ET AL) 2 June 1998 (1998-06-02) column 7, lines 7-43; figure 3	10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/051063

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1298650	A	02-04-2003	KR 2003050146 A BR 0203977 A CA 2405447 A1 CN 1410973 A EP 1298650 A2 JP 2003123251 A JP 2004253136 A JP 2004253137 A JP 2004253138 A KR 2003028369 A US 2003095488 A1 US 2004174789 A1 US 2004174790 A1 US 2004179459 A1 US 2004179452 A1 US 2004179453 A1	25-06-2003 16-09-2003 29-03-2003 16-04-2003 02-04-2003 25-04-2003 09-09-2004 09-09-2004 09-09-2004 08-04-2003 22-05-2003 09-09-2004 09-09-2004 16-09-2004 16-09-2004 16-09-2004
US 5150351	A	22-09-1992	JP 2658404 B2 JP 3035425 A JP 2707774 B2 JP 3185628 A CA 2020243 A1 DE 69028737 D1 DE 69028737 T2 DE 69032775 D1 DE 69032775 T2 EP 0405610 A2 EP 0669611 A1 KR 9401997 B1 US 5109373 A	30-09-1997 15-02-1991 04-02-1998 13-08-1991 31-12-1990 07-11-1996 22-05-1997 24-12-1998 22-07-1999 02-01-1991 30-08-1995 12-03-1994 28-04-1992
US 2003198166	A1	23-10-2003	US 2004141448 A1 AU 5835301 A BR 0106321 A CA 2378758 A1 CN 1386268 T CZ 20020072 A3 EA 3310 B1 WO 0186642 A1 EP 1206772 A1 HU 0202465 A2 JP 2003533836 T MX PA02000162 A PL 352839 A1 TW 508574 B US 2002003762 A1	22-07-2004 20-11-2001 19-03-2002 15-11-2001 18-12-2002 12-06-2002 24-04-2003 15-11-2001 22-05-2002 28-12-2002 11-11-2003 02-07-2002 08-09-2003 01-11-2002 10-01-2002
EP 0218243	A	15-04-1987	JP 1991633 C JP 7021863 B JP 62084434 A JP 1713418 C JP 3078695 B JP 62084435 A CA 1266917 A1 CN 86106577 A , B DE 3683718 D1 EP 0218243 A2 KR 9101328 B1	22-11-1995 08-03-1995 17-04-1987 27-11-1992 16-12-1991 17-04-1987 20-03-1990 10-06-1987 12-03-1992 15-04-1987 04-03-1991

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/182004/051063

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0218243	A	US 4799208 A	17-01-1989
US 6538966	B1	25-03-2003 DE 10149069 A1	18-07-2002
US 2001012251	A1	09-08-2001 JP 3048945 B2	05-06-2000
		JP 10040547 A	13-02-1998
		DE 69721374 D1	05-06-2003
		EP 1227473 A2	31-07-2002
		EP 1227474 A2	31-07-2002
		EP 1227475 A2	31-07-2002
		EP 0809239 A2	26-11-1997
		US 2001014065 A1	16-08-2001
		US 6314070 B1	06-11-2001
		US 6240056 B1	29-05-2001
US 5761172	A	02-06-1998 JP 8221758 A	30-08-1996
		CN 1128078 A ,B	31-07-1996
		DE 19580491 T0	09-05-1996
		JP 8077640 A	22-03-1996
		WO 9526548 A1	05-10-1995
		US 5774444 A	30-06-1998
		US 5835469 A	10-11-1998
		US 5886969 A	23-03-1999